

Theories And Strategies of Good Decision Making

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Abstract :- Decision making is one of the major attribute of a good leader. It is a core skill employers look for in job description. Decision making is basically the major role of managers and leaders. Despite of the fact it is done all the time and at almost all levels of a project, we have not stopped hearing the business news with news of how business flops with much loss as a result of bad decision that you tend to imagine "what were they thinking while making the decision?" Or "What kind of person could have made such decision?" The reality seems to be that most organizations aren't run by good decision makers, let alone great ones. People tend to remember the stories of bad decision making than a great one. This is so due to human tendency to notice exception rather than expected and the result of a bad decision could be so painful that it memory keeps lingering in the mind. It is necessary in decision making to follow the necessary procedure and make the right choice using the right tool that fits for the particular situation to avoid the consequences of a bad decision.

Key words: IT Management, business failure, bad decision, good decision, decision strategies, decision theories.

1 Introduction

1.1 Introduction

"Somewhere along the line of development we discover what we really are, and then we make our real decision for which we are responsible. Make that decision primarily for yourself because you can never really live anyone else's life." -- *Eleanor Roosevelt* [9] Decision Making could be defined as the study of identifying and choosing from alternatives, the best option that suits a purpose. It is usually regarded as a cognitive study as it involves mental and logical reasoning. In decision making, there are various alternatives that worth to be considered but the interest is not on the number of different alternatives rather to identify all the alternatives and choose the one with the highest probability of success or that best fits specific goal or objective. Decision making is a process that reduces uncertainty to a considerable level. In most decisions, uncertainty is reduced rather than being eliminated. [13] Only in few cases decisions are made with absolute certainty. This implies that most decision involve a certain amount of risk. If there is no uncertainty, then there is no decision; as you are just to act and expect a fixed result. Decisions determine the success of a project, and at times there are difficult moments when they seems to not to be as easy as we think as they are more difficult and nerve racking. Humanity has always lived in the shadow of fears. The fear of making serious decisions is a new kind of fear, called **decidophobia**, proclaimed by Walter Kaufmann at Princeton University in 1973. [9] Wherever you see a successful business, someone once made a courageous decision. The fear of wrong decision runs in heart of all good leaders and managers but the ability to make the right decision despite the fear make them successful. An important factor decision theories tend to neglect is the non-linear and recursive nature of decision making.

In most cases, decisions are made by moving forth and back between the criteria or set goals and the identification of feasible alternatives. The available alternatives influence the criteria we apply to them and also the set goals can influence the alternatives that will be available. [1]

1.2 Kinds of Decision Making

There are various kinds of decision. They have been grouped into three:

Decisions on Whether: This is a decision that involves a yes/no. An instance is the case of a project manager contemplating on whether to get more team members or not. The project manager can either go ahead to recruit more team members or not, there is no middle cause to such decision and you need to decide that before other alternatives might come up. If yes, then alternatives of how many do you need, of what specialisation and any other alternative might come up. In this type of decision, the PMI technique (further discussed in section 3.2) is most appropriate as it weighs it pros and cons. [1]

Decision on Which: This type of decision involve making a choice from two or more alternatives, measuring the one with highest probability of success or that best fits the conditions. An example of such decision includes an investor deciding on what brand or product to invest in from various options. Different methods are used to make such decision as it involves the nature of the decision maker and also the nature of the decision itself.

Conditional or Contingent decision: These are already made decision based on certain conditions being met. This makes it easier for the decision maker to take action once those conditions are met. A good instance is a team leader who said "I have decided to recruit more team members *if* we are awarded the project".

2 Theories of Decision Making

2.1 Decision theories

Decision theory is the study of principles and algorithms use for making decision. This is achieved by identifying values, uncertainties and other things that might influence the decision. Decision theories can basically be grouped into two: Normative and descriptive decision theory. While normative theory explains how decision should be made, descriptive theory explains how decisions are made.

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Decision theories could be under certainty (each alternative lead to a goal or consequence), risk (each alternative has one or more consequence and the probability of each are known) and uncertainty (each alternative lead to one or more consequence with an unknown probability). There are different types of decision theories that have been implemented. These include:

Causal decision theory: This is an old theory that is still in use till date. This theory adopts the principle of rational choice which implies that the outcome of your choice is a consequence of your decision.

Evidential decision theory: Evidential decision theory in contrary to causal decision theory believes the best option conditional on having chosen it is the one with the best outcome. This is believed to be an irrational thinking.

Game theory: Is a mathematical study of strategic decision making. It is considered to be an interactive decision theory as it takes into consideration the conflict and cooperation between intelligent rational decision makers.

Bayesian theory: Bayesian theory is a probability theory used in decision making. Bayesian is regarded to be an extension of logic that enables reasoning with prepositions with either a true or false state. The above theories can all be regarded as mathematical theories of decision making. Decision making theories can also be viewed by analysing the approach and procedure in making a decision.

2.2 Approaches to Decision Making

In an organisation or a team, there are basically two approaches to decision making:

Authoritarian: The manager or team leader makes a decision based on his own knowledge or experience and communicate his decision to the group and await their acceptance.

Group: The group tend to make the decision together by analysing the different alternatives that fits their objective. Some studies came up with the research that in an Authoritarian approach, the leader spends five minutes to make a decision, thirty minutes to communicate his decision and another 30minutes for the group to accept while a group approach spends 30 minutes to analyse and decide on the best option. Therefore, the group approach is more encouraged as group members tend to appreciate ideas they think of and have more zeal in achieving goals set by their own initiative than when decision are being taken on their behalf.

Automating System: This is a computer system that automates significant parts (or all) of an administrative decision-making process. The primary feature of this system is its ability to build and automate administrative decision using some logic in a computer system. Automated systems may range from conventional information technology systems (which may calculate a rate of payment in accordance with a formula set out) through to more complex systems such as 'expert', 'business rules engines', 'rules-based' and 'decision-support' tools. The

automated system is a developing approach to decision making as managers find it easier to make unbiased decision once the right criteria has been entered. [10]

2.3 Decision Making Procedure

In decision making, it is likely there is a forward and backward movement in following the procedure due to the recursive nature of decision making. The following are the most common steps in decision making:

Create a constructive environment: In creating a construction environment, an objective needs to be established. The people involved play an important role in the decision and a good stakeholder analysis is to be done ensuring that the right people are asked the right question. Not involving the people concerned in a decision is regarded to be an act of aggression.

Generating potential solutions: This step is critical to decision making. The better your alternatives are, the more likely you are to make a good decision. Generating alternatives allows for a deep look into the problem and the more you assume there could be a better solution, the more likely to make the best decision possible. All alternatives should be considered as well as no decision. In as much as no decision could be disastrous in most cases, it is possible to be a better option than available alternatives. The most popular tool used to generate alternatives is brain storming.

Evaluating alternatives: In decision making, there is always a degree of uncertainty on every alternative. It is essential to analyse the feasibility, risk and implication of each of the alternative. There are various tools used in evaluating these alternatives (discussed later in section 3.2) which include linear programming, cost-benefit analysis, decision tree, simulation and PMI technique.

Choose the best alternative: After the alternatives are evaluated, then the best option that fits for the objective is chosen. This might involve you deciding as group. The strategy use in decision depends on the nature of the decision maker (as discussed in section 3.1) A pre-programmed automated system could be use to choose the best alternative.

Check your decision: This is another step that is important but most time it is ignored. It is necessary you check your decision and ensure that all conditions have been considered and the best decision has been made. It is obvious the catastrophic consequences that over-confidence, groupthink, and other decision-making errors have wrought on the world economy [5].

Communicate your decision and move to action: The decision should be well communicated to the people to carry out the project and the people affected by it. In the process of communication, avoid being economical with the truth, ensure that the projected benefit, risk and likely drawbacks are well explained.

3 Strategies of Decision Making

3.1 Some Decision Making Strategies

Making decision can be more tasking than we expect. There are many strategies used in choosing the best choice or alternative. The most commonly used strategies include:

Optimizing: This is the strategy of choosing the best option among the identified alternatives. The effectiveness of this strategy relies on importance of the problem, time limit, availability of resources, cost of other alternatives and the psychology of the decision maker. Often, there is a better decision than the decision made. It is better to place limitations to alternatives as it might not be possible to sample all alternatives for a case with large sample space.

Satisficing: This strategy considers the first satisfactory alternative rather than the best. The word satisficing was derived from two words Satisfy and sufficient. Once, these two conditions are in place, then it is considered as the best option. This is mostly used in many small and quick decisions like where to park, what to where and what to eat.

Maximax: This is maximising the maximums. In this strategy, evaluation is done and the alternative with the maximum profit is chosen as the best option. This is usually referred to as decision of the optimist, as favourable outcome is expected and high potentials are the area of concern. This is usually used when risk is most acceptable and failure can be tolerated.

Maximin: Also known as the maximise the minimum. This strategy is considered to be that of a pessimist as it considers the worst possible outcome of all alternatives and the one with the highest minimum is chosen. This type of strategy is used when failure is expensive and can't be tolerated.

3.2 Techniques/Tools Used in Good Decision Making

Decision Tree: Decision trees are excellent tools used to make decision. It is observed that human eye find it easy to read pictures. This has made the decision tree easier to read and understand. The evaluation is carried out at each node of the decision. Each node of the decision tree represents an alternative.

PMI Technique: PMI stands for 'Plus Minus Interesting'. It is an improvement to the pros and cons technique used for centuries. PMI is used to evaluate the options by drawing a table with a three column to evaluate the plus or positive effect of the alternative on the first column, the negative effect on the second column and the third column for other expected eventualities either positive or negative. These effects could be scored for better evaluation as some of them could be more subjective than others. This technique can be likened to the SWOT analysis.

Consultation: This is one of the most common evaluation techniques. While consulting, it is important you consult the right people and ask the right question. [7]

Experience: Over time, experience have been said to be the best teacher. Evaluation is sometimes based on past event and experience. This might be a good option but a good analysis of the present and particular situation should be done, as certain conditions being changed might result in a total different result. [7]

Cost-Benefit Analysis: This is a systematic way of calculating benefit and cost of a project. It estimates the equivalent monetary value of a project. The drawback of this technique is placing so much value on money than other risk or benefit that might be attached to the project. [2]

Simulation: The purpose of simulation goes beyond decision making as it is used for performance optimization, safety engineering, testing and education. It is a scientific tool used to represent a real world process. Simulation becomes very important in the absence of past experience or knowledge of the project. The drawback of this technique is it requires experts and people tend to rely so much on the result as it looks real. Simulation tools include anylogic, simul8, goldsim among others. [3]

Linear Programming: Linear programming can be used in different fields of study. It is usually applied to business and economics, but can also be used for some engineering problems. It is a mathematical method to determine the maximum profit or lowest cost. Linear programming has made it success in some industries such as transportation, energy, telecommunications and manufacturing.

4 Bad Decision Making

4.1 Why Bad Decision?

It should be noted here that a decision is not evaluated based on its outcome but rather based on analysis of the decision making. Hence, a bad decision is not a decision with an unexpected outcome or a negative outcome. A bad decision is one in which you override your senses and choose an option that, at some level, you know you should not. [12]. There are various mechanisms or reasons that can lead to bad decision making. These include:

Not having sufficient number of alternatives: The more limited alternatives are, the more likely a bad decision is made. Alternatives should be make open and be sure to include all alternatives.

Lack of information: Lack of information has led to many bad decisions has decision were only based on some known facts.

No enough time to decide: Decision making under pressure could be very disastrous, as it only solve an immediate problem but could lead to a bigger problem.

Ignorance of evaluation techniques: Most people assume they are good decision makers and this over confidence has led to negligence in some steps in decision making.

Inaccurate forecasting of the effects of specific actions: A good example of this could be seen in construction of a new road to solve the congestion in an old road, not taking

into consideration that everyone tend to take the new road and leading to initial problem.

Inaccurate forecasting of external influences: Some external factors tend to have great influence on the decision. Factors like government policy have a great influence and could lead to change of decision.

Uncritical acceptance of others' judgments: This usually happen in a group decision where you tend to accept majority's opinion without looking critically at the opinion of the minority.

Uncritical acceptance of subjective needs and feelings: While making a decision, being objective and focus is as important as the decision itself. Many people has compromised a good decision for selfish interest, people's feeling and this has led to negative eventualities. However, the result of bad decision could be heart breaking and could have an adverse effect on the decision maker and the society at large. Some of the effects of bad decision include: Lessons are being learnt in a hard way. Time is said to be life. Some bad decision has led to time wasting. More and unbudgeted money is spent. The most insidious and damaging effect is a wasted life! [11]

5 Conclusion

Decision making is a skill, and skills can be improved. The more experienced you are in making decisions, the more you are familiar with the tools and process that lead to an effective decision making and this will improve your confidence. Improving your decision making skills will benefit you and your organization at large. [5] It is therefore necessary to understand the theories and strategies that can aid a good decision. Most achievers have been found to make a great decision in their lives and this had led them to success and in the course of making such decision, some risks were compromised. Risk takers tend to make better decision with good analysis. The fear of risk could lead to not taking decision at all which is the worst decision. However, if a strong foundation is established for decision making, good alternatives are generated, evaluation of these alternatives is done rigorously, and there is a good check on decision making process, then the quality of decision tend to be good.

References

- (1) Robert Harris. (2009, December 2). Introduction to decision making (2nd edition) [Online], Available: <http://www.virtualsalt.com/crebook5.htm>
- (2) Thayer Watkins, Silicon Valley & Tornado Alley. (April, 2012). An Introduction to cost benefit analysis. [Online]. Available: <http://www.sjsu.edu/faculty/watkins/cba.htm>
- (3) Autodesk Inc. (April, 2012). Simulation software. [Online] Available: <http://usa.autodesk.com/simulation-software/>
- (4) Bryant Nielson. (May 4, 2009). Decision making strategies. [Online]. Available:

<http://ezinearticles.com/?Decision-Making-Strategies&id=2301559>

- (5) Mind Tools. [April, 2012]. Decision making skills. [Online]. Available: http://www.mindtools.com/pages/article/newTED_7_9.htm
- (6) Sarita Harbour [April, 2012]. Decision-making strategies for plan implementation. [Online]. Available: <http://smallbusiness.chron.com/decisionmaking-strategies-plan-implementation-36523.html>
- (7) Carol Adams. (April, 2012). Decision making techniques in management. [Online] Available: www.ehow.com/info_8130246_decision-making-techniques-management.html
- (8) Wikipedia. (April 18, 2012). Decision making. [Online]. Available: http://en.wikipedia.org/wiki/Decision_making
- (9) Dr. Arsham. (April, 2012). Leadership decision making. (8th edition). [Online]. Available: <http://home.ubalt.edu/ntsbarsh/opre640/partxiii.htm>
- (10) Australian Government, Department of Finance and degulation. (December, 2008). Automated assistance in Administrative decision-making: Better Practice guide.[Online] Available: <http://www.finance.gov.au/archive/archive-of-publications/aaadm/introduction.html>
- (11) Decision Making Confidence. (April, 2012). The effects of bad decisions can reach through space and time. [Online] Available: <http://www.decision-making-confidence.com/effects-of-bad-decisions.html>
- (12) ITS Tutorial School. (February, 2011). The unlucky list to bad decision making-who should in the decision making process. [Online]. Available: <http://www.tuition.com.hk/bad-decisions.htm>
- (13) Decision Quality. (April, 2008). Decision making process. [Online] Available: <http://decision-quality.com/intro.php>